

ABSTRACT OF THE DISCLOSURE

There are provided an ultrasonic transducer that performs transmission and/or reception of an ultrasonic wave, and a propagation medium portion that forms a propagation path of the ultrasonic wave. A density and an acoustic velocity of the propagation medium portion, and a density and a sound velocity of a fluid that fills a circumjacent space are appropriately set, and a propagation loss of the ultrasonic wave into the fluid is reduced to almost zero by refracting the ultrasonic wave at an appropriate angle.